

Amendment to the Claims

Please cancel claims 1-27 without prejudice or disclaimer, and substitute the following new claims prior to examination:

28. (New) A method for detection of cutaneous supergroup B HPVs, comprising the steps of:

(a) providing a sample suspected of harboring cutaneous supergroup B HPVs;

(b) providing a pair of bi-directional primers directed to discrete regions in the DNA of supergroup B HPVs that are closely spaced together;

(c) performing a reaction to amplify DNA derived from the sample using the pair of primers; and

(d) detecting DNA amplification products from cutaneous supergroup B HPV from the sample.

29. (New) A method for detection of cutaneous supergroup B HPVs, comprising the steps of:

(a) providing a sample suspected of harboring cutaneous supergroup B HPVs;

(b) providing a plurality of pairs of bi-directional primers collectively substantially complementary to DNA of all cutaneous supergroup B HPVs;

(c) performing a reaction to amplify DNA derived from the sample using the plurality of primers; and

(d) detecting DNA amplification products from cutaneous supergroup B HPV from said sample.

30. (New) A method according to claim 28, wherein step (d) is carried out by hybridizing the reaction products of the DNA amplification reaction to a plurality of generic cutaneous supergroup B HPV probes.

31. (New) A method according to claim 30, wherein the pairs of bi-directional primers comprise primers that are collectively substantially complementary to a first consensus region in the DNA of all cutaneous supergroup B HPVs, and which further comprise primers that are collectively substantially complementary to a second consensus region in the DNA of all cutaneous supergroup B HPVs.

32. (New) A method according to claim 31, wherein the first and second consensus regions are in the L1 ORF of cutaneous supergroup B HPVs.

33. (New) A method according to claim 32, wherein the first and second consensus regions are substantially as defined in Figure 2.

34. (New) A method according to claim 33, wherein the pair of primers comprises the primers of Figure 1.

35. (New) A method according to claim 33, wherein one of each pair of primers comprises a biotin label.

36. (New) A method according to claim 30, wherein the reaction to amplify DNA is performed under conditions of reduced stringency.

37. (New) A method according to claim 30, wherein the plurality of supergroup B HPV probes is substantially complementary to the nucleic acid sequence of the DNA amplification products from all supergroup B HPVs.

38. (New) A method according to claim 30, wherein the supergroup B HPV probes comprise the probes of Figure 3.

39. (New) A method according to claim 38, wherein the probes comprise a DIG label.

40. (New) A method for typing of cutaneous supergroup B HPVs comprising the steps of:

(a) providing DNA amplification products by amplifying DNA of cutaneous supergroup B HPV using a pair of bi-directional primers directed to discrete regions in the DNA of supergroup B HPVs that are closely spaced together; and

(b) detecting DNA amplification products from one or more supergroup B HPV types by hybridizing the amplification products to at least one cutaneous supergroup B HPV probe that is substantially complementary to the DNA of at least one cutaneous supergroup B HPV types.

41. (New) A method for typing of cutaneous supergroup B HPVs comprising the steps of:

(a) providing DNA amplification products by amplifying DNA of cutaneous supergroup B HPV using a plurality of pairs of bi-directional primers; and

(b) detecting DNA amplification products from one or more supergroup B HPV types by hybridizing the amplification products to at least one cutaneous supergroup B HPV probe that is substantially complementary to the DNA of at least one cutaneous supergroup B HPV types.

42. (New) A method according to claim 41, wherein the pairs of bi-directional primers comprise primers that are collectively substantially complementary to a first consensus region in the DNA of all cutaneous supergroup B HPVs, and which further comprise primers that are substantially complementary to a second consensus region in the DNA of all cutaneous supergroup B HPVs.

43. (New) A method according to claim 42, wherein the first and second consensus regions are in the L1 ORF of cutaneous supergroup B HPVs.

44. (New) A method according to claim 43, wherein the first and second consensus regions are substantially as defined in Figure 2.
45. (New) A method according to claim 44, wherein the plurality of pairs of bi-directional primers comprises the primers of Figure 1.
46. (New) A method according to claim 45, wherein one of each pair of primers comprise a biotin label.
47. (New) A method according to claim 46, wherein at least one probe is substantially complementary to the DNA of exactly one type of supergroup B HPV.
48. (New) A method according to claim 47, wherein at least one probe is selected from the probes shown in Figure 5.
49. (New) A method according to claim 48, wherein the detection comprises the use of a reverse line blot.
50. (New) Bi-directional primers for use in a method according to claim 49, which primers are substantially complementary to a first and a second consensus region in the L1 ORF of all supergroup B HPVs.
51. (New) Bi-directional primers as shown in Figure 1.
52. (New) Generic detection probes for the detection of cutaneous supergroup B HPVs, which probes are collectively substantially complementary to a region in the L1 ORF of all supergroup B HPVs between nucleotide positions 6539 and 6610 of HPV 4 and a corresponding region of the other cutaneous supergroup B HPV types.

53. (New) Generic detection probes as shown in Figure 3.
54. (New) Detection probes for the detection of cutaneous supergroup B HPV types, which probes are substantially complementary to a region in the L1 ORF of at least one but not all cutaneous supergroup B HPV types between nucleotide positions 6539 and 6610 of HPV 4 and a corresponding region of other cutaneous supergroup B HPV types.
55. (New) Type-specific detection probes for the detection of cutaneous supergroup B HPV types, which probes are substantially complementary to a region in the L1 ORF of exactly one type of cutaneous supergroup B HPV type between nucleotide positions 6539 and 6610 of HPV 4 and a corresponding region of other cutaneous supergroup B HPV types.
56. (New) Type-specific detection probes of Figure 5.